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ILLINOIS STATE GEOLOGICAL SURVEY
NATURAL RESOURCES BUILDING
PEABODY EAST OF SOUTH SIXTH
URBANA, ILLINOIS 61801

TELEPHONE 217 344-1481

JOHN C. FRYE, CHIEF

P. O. Box I
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March 18, 1971

Cook County - Solid Waste Disposal
Palos Hills/De Boer

Mr. C. E. Clark, Chief
Bureau of Land Pollution Control
Environmental Protection Agency
2400 West Jefferson
Springfield, Illinois 62706

Dear Mr. Clark:

This is in response to your letter of March 8, 1971, requesting a description of the hydrogeology in the vicinity of a solid waste disposal site located in the NE¼ of Section 13, T. 37 N., R. 12 E., Cook County.

The site was visited on March 16, 1971. It is located immediately north of Stony Creek, and, according to Hydrologic Investigations Atlas HA-145 of the Palos Park Quadrangle, the area was flooded in 1954. The site is currently operating, and appears to be receiving mainly industrial wastes, such as wooden pallets and paper.

At the time of the visit a trench was being excavated in the southern part of the site immediately north of Stony Creek. The materials exposed consisted of a coarse, poorly sorted gravel. There were also piles of materials scattered over the site which apparently had been excavated from the refuse trenches. These piles contained sand and gravel, silty clay till, and what appeared to be ashes and cinders, suggesting that the area may have originally been an open burning dump. Water was present in the base of the trench which was being excavated, however, this was probably surface runoff.

Our surface and subsurface mapping are not in agreement as to the types of glacial drift materials present at this site. Well records indicate that the glacial drift is approximately 40 feet thick and contains a basal sand and gravel aquifer 15 to 25 feet thick. Surficial mapping shows thin valley train sands and gravels immediately overlying

the bedrock. Site borings would be necessary to resolve this difference. The Silurian Dolomite aquifer underlies the glacial ddift.

The State Geological Survey has records of three wells completed in the Silurian Dolomite aquifer within one-half mile of this site. These records are not complete, and other wells may be present in the area, or the recorded wells may have since been abandoned.

The top of the zone of saturation is probably within 10 feet of the ground surface at the elevation of the water in Stony Creek. Under natural conditions ground-water movement from the site is probably into Stony Creek or downward into the Silurian Dolomite aquifer. If dissolved solids are produced at this site they would have access to Stony Creek, and possibly to the underlying Silurian Dolomite, as well.

If further information is desired on this site, we would suggest that borings be made to define the drift materials above the Silurian aquifer, and the direction of ground-water movement.

Yours truly,

George Hughes

George M. Hughes
Associate Geologist
Northeastern Illinois Office
Section of Ground-Water Geology
and Geophysical Exploration

GMH/jge
cc: Benn Leland